Optimization of color and transmittance in a dye-doped chiral-nematic liquid crystal cell

*Seung-Min Nam1, Seung-Won Oh1, Jae-Won Huh1, Seong-Min Ji1, Eunjung Lim2, Jinhong Kim2, Tae-Hoon Yoon1
(1. Pusan National University (Korea), 2. LG Chem. (Korea))

Keywords: liquid crystal, dichroic dye, dye-doped liquid crystal, transmittance-control device

Among various dye-doped liquid crystal (LC) devices, a chiral-nematic LC cell provides the highest transmittance difference between its transparent and opaque states. We propose a systematic approach to find the optimal dye mixing for black color in the opaque state and optimization method in the parameter space for the maximum transmittance difference.